Remarks

Claims 1 and 3-23 were pending in the subject application. By this Amendment, claim 1 and 23 have been amended, claim 3 has been canceled, new claims 24-30 have been added, and claims 7-14 and 18-21 have been withdrawn from consideration. The applicants reserve the right to request rejoinder of the withdrawn claims upon the indication of allowable subject matter. The applicants note that claims 22 and 23 have been designated as withdrawn from consideration, but these claims were not previously included in the restriction requirement. The undersigned avers that no new matter is introduced by this amendment. Support for this amendment can be found throughout the application including paragraphs [0011], [0046], [0052], [0056], [0084], and Figures 1 and 5-11 of the instant Application Publication No. 2003/0118589. Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 1, 4-6, 15-17, and 22-30 are currently before the Examiner for consideration.

The applicants and the applicants' representative wish to thank Examiner Gupta for the courtesy of the telephonic interview conducted with the undersigned on February 15, 2005, regarding the rejections under 35 U.S.C. §112, first paragraph. The remarks and amendments set forth herein are consistent with the substance of the interview and are believed to address the outstanding issues as discussed during the interview. Claims 1, 3 and 7-23 were discussed. Examiner Gupta requested the cancellation of claims 1 and 3 and the non-elected claims and the amendment of claims 15-17 to delete the term "functionally related derivatives thereof." Agreement was not reached.

The applicants note that the Information Disclosure Statement (IDS) submitted to the Patent Office on April 19, 2002 was not acknowledged in the instant Office Action. Although the U.S. Patent Office's Patent Application Information Retrieval (PAIR) system acknowledges the filing of the IDS on April 19, 2002, it appears that the IDS, the PTO-1449 form, and the accompanying references were not scanned into the Electronic File Wrapper. Per the Examiner's request in a previous telephonic conference with the applicants' representative, photocopies of the IDS, the PTO-1449 form, and copies of the references cited therein, all as filed, were enclosed with the November 18, 2005 response. The applicants respectfully request that the IDS and the references cited therein be taken into consideration.

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Claims 1, 3, 6, and 15-17 have been rejected under 35 U.S.C. §112, first paragraph, as lacking sufficient written description. The applicants respectfully traverse the rejection of claims 1, 6, and 15-17 because the application contains sufficient description in the specification and the figures to satisfy the written description requirement. Claim 3 has been canceled, thereby rendering this aspect of the 35 U.S.C. §112, first paragraph rejection moot.

The instant application includes teachings, figures, and representative growth factor compounds that fall within the scope of claim 1. Although the specification does discuss some common structural and functional features of the growth factor binding compounds of the claimed invention ([0046], [0050] and [0084]), the specification also discloses a number of representative compounds that also form the basis for the genus of claim 1. The C.C.P.A. has recognized that genus claims can be found in the implicit description provided by representative compounds. *In re Robins*, 429 F.2d 452, 256-57 (C.C.P.A. 1970).

Claim 1 as now presented is directed to growth factor binding compounds with specific structural and functional features. The applicants respectfully point out that the claims, when read in their entirety, are directed to compounds that target growth factors. It is the plurality of peptide loops that function as the growth factor recognition site. The specification further discloses different combinations of tetrapeptides within the plurality of peptide loops that effectively inhibit different growth factors like, for example, PDGF. However, to expedite prosecution, claim 1 has been amended to specify that the plurality of peptide loops form the growth factor binding site.

The applicants also submit that the specification sufficiently supports the genus wherein the plurality of peptide loops contain a negatively charged amino acid. It is well known in the art that the negative amino acids are aspartic acid and glutamic acid. Thus, the genus of the claimed invention must include those compounds wherein one of the amino acids is either aspartic acid or glutamic acid. This structural feature is supported by numerous representative growth factor binding compounds falling within the scope of the claimed genus. The specification includes many sequences (*i.e.*, SEQ ID NO. 1; SEQ ID NO. 2; SEQ ID NO. 3; SEQ ID NO. 4; SEQ ID NO. 5; SEQ ID NO. 7; SEQ ID NO. 8; SEQ ID NO. 11; SEQ ID NO. 12; SEQ ID NO. 13; and SEQ ID NO. 14) wherein one of the amino acids within the peptide loop is negatively charged. Thus, the applicants respectfully submit that the skilled artisan would fully appreciate the genus of the claimed invention

in view of the number of naturally occurring negatively charged amino acids and the specific embodiments disclosed in the detailed description and examples.

Furthermore, in some embodiments, the peptide loop also contains an aromatic amino acid in one of the four amino acid positions, and the resulting compound still exhibits inhibitory activity. A review of the aromatic amino acids shows that aromatic amino acids include tyrosine, tryptophan, and phenylalanine. Thus, the specification further provides support for those peptide loops wherein one of the amino acids is negatively charged and wherein one of the amino acids contains an aromatic functional group. Accordingly, the applicants respectfully request reconsideration and withdrawal of this aspect of the rejection under 35 U.S.C. §112, first paragraph.

The applicants also traverse the rejection of claims 15-17 for the use of the term "functionally related derivatives." The specification includes data that show that peptide sequences similar to, for example, GKGK (SEQ ID NO. 10) also inhibit VEGF stimulated Flk-1/3T3 cell based assays. In this particular example, functional related derivatives can be found in Table 4B, which provides a summary of the inhibition of VEGF stimulated Flk-1 Tyrosine Phosphorylation and Signaling. Other tetrapeptides having a G in the R_1 and R_3 position also show some inhibitory activity (See, for example, GFB-107's inhibition of p42 and p44). The specification itself also provides teachings of various embodiments of growth factor binding compounds that target VEGF in paragraph [0107].

Similarly, for growth factor binding compounds that target acidic fibroblast growth factor, the specification provides several embodiments. Table 5, which summarizes the inhibition of aFGF stimulated FGFR Tyrosine Phosphorylation and Signaling, provides several specific compounds that show some activity, although they are not as potent as the claimed compounds. Examples of these additional compounds include GFB-107, GFB-109, GFB-110, GFB-113, GFB-117, and GFB-122. With the exception of GFB-114 and GFB-115, all of the compounds tested in Example 3 also show various inhibitory activities against aFGF signaling. Likewise, numerous functionally related derivatives are also disclosed in Table 6 for IGF-1 growth factor binding compounds where the first amino acid in the tetrapeptide is G and the second amino acid in the tetrapeptide is D. (See, for example, GFB-110, GFB-109, GFB-117, GFB-122, GFB-134, GFB-134, GFB-136, and GFB-137). Accordingly, the applicants respectfully request reconsideration and withdrawal of this aspect of the rejection under 35 U.S.C. §112, first paragraph.

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